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COMPLETE SPECIFICATION.

The Manufacture and Production of Caramelized Materials, especially intended for Use in the Manufacture or Treatment of Beers, Spirits, Vinegar, Aërated Water, and other Liquids or Beverages.

I THEODORE DAVID LICHTENSTEIN, of The Victoria and Royal Albert Docks Chemical Works, Silvertown, in the County of London, Chemist, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

This invention has for its object to provide caramelized new materials more especially intended to be used in the manufacture, or preparation, of beers, spirits, vinegar, and aërated waters or other liquids or beverages. According to this invention sugar, glucose, molasses, or other saccharine matter or dextrine is boiled in an open, or closed vessel and steam, or air, is, or both steam and air are, forced thereinte.

In treating matters which are not in a sufficiently liquid condition such as dry sugar, or dextrine, for example it is advisable to add a small quantity of water thereto before boiling. The heating may be effected by any suitable means, for example, by a fire, or by steam admitted into a jacket, or coil, or by both

15 together. Whilst the matter is boiling, steam, or hot or cold air, or a mixture of air and steam is forced thereinto. This may be effected by any suitable means, such for instance, as a mechanical blower, or a steam blower. The heating should be carried to near the carbonizing point, but not to such a point as to produce charcoal. When the heating is completed to the aforesaid point the heating and

the forcing in of steam, or air, or of steam and air is discontinued and the matter is cooled, or allowed to cool, the result being a liquid, or a solid, mass, dependant upon the amount of water present. If a solid mass be produced it is then ground to a fine powder, which may, if desired, be compressed into tablets of definite quantity, or it may be dissolved in water, if it be required in the liquid form.

The heating as described and the blowing in of steam or air, or of steam and air, may be simultaneous, or alternate, so that one can be used to govern, or assist, the other, and there may be added with the steam, or air, or steam and air, any matters such as alkalis, alkaline salts, or alkaline earths, which will facilitate, or control, the reaction.

Oxygen gas may if desired, be used in place of air. If steam and air, or oxygen, be both used they may be introduced together, or alternately, as may be most convenient. The volatile products driven off may be passed into a condenser and condensed for separate use. The process may be carried out by means of any suitable apparatus. For example I may employ for the purpose a copper pan heated externally by fire, into which pan dips a pipe through which the steam or air, or both, can be admitted to the lower part of the material under treatment.

When steam is injected a pressure of from 60 to 120 lbs. per square inch may be employed with good results.

- Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed I declare that what I claim is:—
 - 1. The manufacture of a material especially intended for use in the manufacture, [Price 8d.]

Lichtenstein's Manufacture and Production of Caramelized Materials.

or treatment, of beers, spirits vinegar, aërated waters, and other liquids, or beverages, the said manufacture consisting in boiling sugar, glucose, molasses, or other saccharine matter or dextrine and forcing thereinto steam, or air, (or oxygen) or both steam and air (or oxygen) substantially as hereinbefore described.

2. As a new article of manufacture a material such as can be produced by the 5

process hereinbefore described and claimed.

Dated this 6th day of June 1895.

JOHNSONS & WILLCOX, 47 Lincoln's Inn Fields, London, W.C., Agents for the Applicant.

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